Ecological Reference Worksheet*

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Contact for lead author:_Phil Smith_____ Reference site used? No

Date: 25 October 2002 MLRA: 42 Ecological Site: Limestone Hills Applies to All (write year or AAll@)

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range for poor B good production year and (3) cite data. Continue descriptions on a separate sheet.	**ERA Match?**
1. Number and extent of rills: There can be a few rills that should be short and discontinuous. The soils in this site are shallow and cobbly with bedrock at 11 inches.	
2. Presence of water flow patterns: There can be a few flow patterns that should be short and discontinuous on side slopes. Flow patterns in drainages are linear and continuous. Occasionally, this site can transport large volumes of water moving gravel and cobbles.	
3. Number and height of erosional pedestals or terracettes: There should be no pedestals. There may be some terracettes of litter behind cobbles and vegetation.	
4. Bare ground from Ecological Site Description or other studies: Bare ground can make up to 27% of the ground cover on this site according to the ESD. In addition, there can be up to 30% cobble and stone and 15% for gravel resulting in a total of approximately 72% of the surface not covered by vegetation.	
5. Number of gullies and erosion associated with gullies: This site can naturally be dissected by ephemeral cobble filled drainages that tend to be v-shaped. There should not be any accelerated erosion. Drainages should be stable even after high intensity precipitation events. Vegetation, cobbles and stones should help stabilize the drainage.	
6. Extent of wind scoured, blowouts and/or depositional areas: There should not be any wind scoured, blowouts and/or depositional areas due to the amount of rock on this site.	
7. Amount of litter movement (describe size and distance expected to travel): There can be lots of large litter moved long distances in the drainages. On the slopes, the cobbles and vegetation catch most of the smaller sized litter.	
8. Soil surface (top few mm) resistance to erosion (stability values are averages B most sites will show a range of values): The soil surface should be resistant to erosion with stability values estimated at 5-6.	
9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness): For the Lozier Series in Dona Ana County this stony loam should have an A horizon that is 0-2 inches thick. It should have a moderately thin platy and be pale brown (10 YR 6/3 dry) to brown (10 YR 4/3 moist). The SOM content should be less than 1%.	
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: The infiltration rates can be higher on north facing slopes due to higher grass cover. Runoff can be more rapid on south facing slopes due to higher shrub cover. These shallow soils can saturate quickly and runoff can be rapid.	
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): There should not be compaction layers on this site.	
12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): Black grama >> curly leaf muhly = bush muhly > sideoats grama > C4 midgrasses [cane bluestem, green sprangletop, Arizona cottontop] > shrubs [sacahuista, agave, ocotillo, yuccas, sotol, mariola, range ratany] > other grasses [threeawns, tridens,] = forbs = other shrubs/succulents	
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): The C4 midgrasses can exhibit high mortality in drought periods relative to dominant perennials black grama and bush muhly, which exhibit low mortality unless additional stresses are applied.	
14. Expected litter amount: Average 10% **cover and** 1.25 **inch deep.** (As per ESD)	
15. Expected annual production (this is TOTAL above-ground production, not just forage production): The annual production in years with unfavorable precipitation should be approximately 325 lbs/acre and 750 lbs/acre in years with favorable precipitation according to the ESD.	
16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, Awill continue to increase regardless of the management of the site@ and may eventually dominate the site: Creosote could possibly invade lower elevations while pinyon and juniper could invade the higher elevations.	
17. Perennial plant reproductive capability: Black grama reproduces by seed sporadically and reproduction by tiller and stolon can be common. The C4 midgrasses should have high reproductive potential and rapidly recover from drought in the absence of additional stresses (grazing).	

*This sheet can also be used to describe Ecological Reference Areas (ERA=s). For ERA=s, you must also complete the following page and describe status of each indicator. In the far right column, write AYes@ (ERA matches expected for site) or ANo@ (ERA does not match expected for the site). Where the answer is ANo@, explain difference in comments.